

## REMARKS

Entry of the foregoing and reconsideration of the application identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.111 and in light of the remarks which follow, are respectfully requested.

By the above amendments, the specification has been amended to capitalize various trade names recited therein, and to correct spelling/typographical errors. Non-elected claims 1-6, 10-13, 27 and 29 have been canceled without prejudice or disclaimer. Claim 7 has been amended to correct a typographical error. Claim 7 has also been amended to recite "wherein the at least one metal element comprises an element selected from the group consisting of Ta, Zr, In, Nd, Sb, Sn and Bi". Support for this amendment can be found in the instant specification at least at page 15, lines 1-10. Claim 37 has been amended to recite that "a major component of the fine particles is of a rutile structure". Support for this amendment can be found in the instant specification at least at page 15, lines 15-19.

In the Official Action, the specification stands objected to for containing trade names without capitalization. By the above amendments, such trade names have been capitalized. Accordingly, withdrawal of this objection is respectfully requested.

Claim 7 stands objected to for the reason set forth at page 3 of the Official Action. This objection is moot in view of the above amendment to claim 7 in which the word "lest" has been replaced with "least". Accordingly, withdrawal of the objection is respectfully requested.

Claims 7, 28 and 30-45 stand rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent Application Publication No. 2002/0018886 (*Matsufuji et al*) in view of U.S. Patent Application Publication No. 2002/0147108 (*Sato et al*). Withdrawal of this rejection is respectfully requested for at least the following reasons.

Independent claim 7 is directed to an antireflection film comprising: a transparent support; a high refractive index layer comprising a matrix and fine particles of a high refractive index composite oxide, wherein the fine particles of a high refractive index composite oxide are fine particles of a composite oxide containing: a titanium element; and at least one metal element, in which the oxide of the at least one metal element has a refractive index of 1.95 or more, wherein the at least one metal element comprises an element selected from the group consisting of Ta, Zr, In, Nd, Sb, Sn and Bi, and the composite oxide is doped with at least one metal ion selected from the group consisting of Co ion, Zr ion and Al ion; and a low refractive index layer having a refractive index of less than 1.55, in this order.

*Matsufuji et al* does not disclose or suggest each feature recited in independent claim 7. For example, *Matsufuji et al* does not disclose or suggest fine particles of a composite oxide containing: a titanium element; and at least one metal element, in which the oxide of the at least one metal element has a refractive index of 1.95 or more, wherein the at least one metal element comprises an element selected from the group consisting of Ta, Zr, In, Nd, Sb, Sn and Bi, as recited in claim 7. Such deficiencies of *Matsufuji et al* have been acknowledged by the Patent Office at page 4 of the Official Action.

*Sato et al* fails to cure the above-described deficiencies of *Matsufuji et al*. It is noted that with regard to the recited at least one metal element, the Patent Office has relied on Example 1 at paragraphs [0121] to [0124] of *Sato et al* for disclosing the formation of a  $\text{Fe}_2\text{O}_3/\text{TiO}_2$  composite film, and on the metal oxides disclosed at paragraph [0060]. See Official Action at page 5. Specifically, it is noted that paragraph [0060] of *Sato et al* discloses the following:

As the microparticles, metal colloidal particles, metal oxide colloidal particles, organic material particles and the like can be mentioned. Examples of the metal colloidal particles include those of Cu, Ag, Pt and the like. Examples of the metal oxide colloidal particles include those of  $\text{Fe}_2\text{O}_3$ ,  $\text{Cu}_2\text{O}$ ,  $\text{CuO}$  and the like. Examples of the organic material particles include, for example, those of polystyrene, polyethylene terephthalate, acrylic resin, polycarbonate and the like.

As discussed above, claim 7 as amended recites that **the at least one metal element comprises an element selected from the group consisting of Ta, Zr, In, Nd, Sb, Sn and Bi**. By comparison, and as can be seen from the above, *Sato et al* has no disclosure or suggestion of employing any of the recited metal elements in combination with the  $\text{Fe}_2\text{O}_3/\text{TiO}_2$  composite film of Example 1.

For at least the above reasons, Applicant respectfully submits that independent claim 7 is non-obvious over the alleged combination of *Matsufuji et al* and *Sato et al*.

Independent claim 37 is directed to an antireflection film comprising: a transparent support; a high refractive index layer comprising a matrix and fine particles of a high refractive index composite oxide, wherein the fine particles of a high refractive index composite oxide are fine particles of a composite oxide containing: a titanium element; and at least one metal element, in which the oxide of the at least one metal element has a refractive index of 1.95 or more, a major component of the fine particles is of a rutile structure, and the composite oxide is doped with at least one metal ion selected from the group consisting of Co ion and Zr ion; and a low refractive index layer having a refractive index of less than 1.55, in this order.

*Matsufuji et al* fails to disclose or suggest each feature recited in independent claim 37. For example, *Matsufuji et al* does not disclose or suggest fine particles of a composite oxide containing: a titanium element; and at least one metal element, in which the oxide of the at least one metal element has a refractive index of 1.95 or more, as recited in claim 37. Such deficiencies of *Matsufuji et al* have been acknowledged by

the Patent Office at page 7 of the Official Action. *Matsufuji et al* also fails to disclose or suggest that a major component of the fine particles is of a rutile structure, as now recited in claim 37.

*Sato et al* fails to cure the above-described deficiencies of *Matsufuji et al*. For example, like *Matsufuji et al*, *Sato et al* does not disclose or suggest that **a major component of the fine particles is of a rutile structure**, as now recited in claim 37. In this regard, *Sato et al* discloses the use of TiO<sub>2</sub> anatase microparticles at paragraph [0121]. There is simply no disclosure of fine particles as presently claimed, wherein a major component of the fine particles is of a rutile structure.

It is important to note *Sato et al*'s teachings of imparting the photocatalytic function of titanium oxide to plastic articles by use of its methods. See, e.g., paragraph [0003]. *Sato et al* further discloses that the titanium oxide doped with metal ions is useful as a photocatalyst having visible light absorbing properties, and a photocatalyst having visible light absorbing properties. See paragraph [0004]. Quite clearly, the disclosed purpose and intended applications of the methods and products of *Sato et al* are based on the ability of the titanium dioxide to function as a photocatalyst.

By comparison, set forth in Applicant's disclosure, for example, are exemplary antireflection films which exhibit excellent weatherability characteristics such as, for example, resistance to light. See specification at pages 5-6. Applicant respectfully submits that in accordance with one aspect, use of the rutile structure in the fine particles can be preferred, for example, in view of **suppressing** the photocatalytic function of titanium dioxide. *Sato et al*, however, teaches the use of titanium dioxide to employ its photocatalytic function. In view of such teaching, it is clear that one of ordinary skill in the art would not have found it obvious to employ the rutile structure as a major component of the fine particles in *Sato et al*.

For at least the above reasons, it is apparent that independent claims 7 and 37 are non-obvious over the alleged combination of *Matsufuji et al* and *Sato et al*.

Accordingly, withdrawal of the §103(a) rejection is respectfully requested.

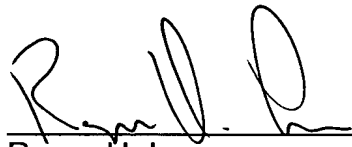
From the foregoing, further and favorable action in the form of a Notice of Allowance is believed to be next in order, and such action is earnestly solicited. If there are any questions concerning this paper or the application in general, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: September 8, 2008

By:

  
\_\_\_\_\_  
Roger H. Lee  
Registration No. 46317

P.O. Box 1404  
Alexandria, VA 22313-1404  
703 836 6620